## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re U.S. Pate	nt Application of:	)	
Applicant(s):	Suomi et al.	,	this paper is being deposited with the l Service as FIRST-CLASS mail in an
Serial No.:	10/656,517	envelope addressed t	o: Commissioner for Patents, P.O. Box A 223 N-1450, on this date.
Conf. No.:	8034	)   January 26, 2004	DOSH WAS
Filed:	September 5, 2003	) Date	Attorney for Applicants Registration No.47,954
For: CURCUIT FOR DRIVING A STEPPER MOTOR AND METHOD OF CONTROLLING A STEPPER MOTOR DRIVER		) ) ) )	
Art Unit:	2837	) )	
Examiner:		)	C. C.

## INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

This IDS is submitted under 37 C.F.R. 1.97(b) within either of the following time periods, whichever occurs last:

- (a) within three months of either the filing date of the national application or the date of entry into the national stage; or
- (b) before the mailing date of first office action on the merits (i.e., not including actions such as restriction requirements).

Applicant(s) submit herewith Form PTO-1449 (Information Disclosure Citation) together with copies of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 C.F.R. 1.56. Applicant(s) respectfully submit that the citation of any reference on Form PTO-1449 does not constitute an admission that the reference qualifies as prior art.

It is requested that the information disclosed on the enclosed Form PTO-1449 be made of record in this application.

The Commissioner is hereby authorized to charge any additional fees which may be required to this application under 37 C.F.R. 1.16-1.17, or to credit any overpayment, to Deposit Account No. 07-2069. A duplicate copy of this sheet is enclosed.

**Customer Number 24978** 

January 26, 2004

300 South Wacker Drive - Suite 2500

Chicago, Illinois 60606 Telephone: (312) 360-0080 Facsimile: (312) 360-9315 PADOCS/0515/67242/415247.DOC Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

Josh C. Snider Registration No. 47,954

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	O-14 o 11 1 8. Department of Commerce			Attorney Docket No.: 0515.67242 Serial No.: 10/656,517				17		
(Rev. 8-88) Patent and Trademark Office  INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)			Applicant: Suomi et al.							
			Filing Date: September 5, 2003		Group: 2837					
U.S. PATI	EN'	T DOCUMENTS					•			
Examiner Initial*		Document Number	Date		Name	Class	Subclass	Filing Date If Appropriate		
-		4,087,732	May 2, 1978	Pritchard						
	П	4,581,565	April 8, 1986	Van Pelt et al.						
		4,931,712	June 5, 1990	DiGiulio et al.						
	П	5,225,756	Jyly 6, 1993	Coutu						
	П	5,231,343	July 27, 1993	Nakamura						
		5,440,214	Aug. 8, 1995	Peeters					_	
		5,450,521	Sept. 12, 1995	Redlich						
FOREIGN	l P	ATENT DOCUMENTS								
:								Translation		
		Document Number	Date	Country		Class	Subclass	Yes	No	
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			<u> </u>	<u> </u>						
OTHER D	000	CUMENTS (Including Aut	hor, Title, Date, Pe	ertinent Pages	s, Etc.)	-				
		SGS-Thomson Microelectronics, "DMOS Full Bridge Driver," descriptions and diagrams, July 1997.								
	Ц	Whitis, Mark, "Basic Stepper Motor Driver Schematic," 1999.								
	Ц	New Japan Radio Co., Ltd., "Microstepping," descriptions and diagrams, http://www.njr.co.jp/pdf/ce/ce05005.pdf.								
	Ц	Laidman, Russell, "Part III - Current Control for Stepper Motors," 2001, http://209.41.165.153/stepper/Tutorials/MicroTutor.htm.								
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	Ш									
Examiner				Date	e Considered					
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Form PTO-1449 U.S. Department of Commore Programmer			N. C. S.	Attorney Docket No.: 05	Serial No.: 10/656,517				
(Rev. 8-88) Patent and Trademark Office INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)				Applicant: Suomi et al.					
				Filing Date: September 5, 2003		Group: 2834			
U.S. PATE	ENT DOCUMENTS							_	
Examiner Initial*	Document Number	Date		Name	Class	Subclass	Filing Date If Appropriate		
	5,519,601	May 21, 1996	Close et al.						
	5,572,105	Nov. 5, 1996	Nojima el al						
	5,936,371	Aug. 10, 1999	Bolash et al.						
	5,977,737	Nov. 2, 1999	Labriola, II						
	6,348,775	Feb. 19, 2002	Edelson et	Edelson et al.					
	US 2002/0097016	Jul. 25, 2002	Tanaka et al.						
FOREIGN	PATENT DOCUMENTS								
							Translation		
,	Document Number	Document Number Date Cou		ountry		Subclass	Yes	No	
OTHER D	OCUMENTS (Including Aut	hor, Title, Date, Pe	ertinent Page	s, Etc.)					
	http://hyperphysics.phy-as	str.gsu.edu/hbase/e	lectronic/xor	.html, "Exclusive OR Gate,	" concept map, Ja	anuary 14, 20	001.		
	http://hyperphysics.phy-astr.gsu.edu/hbase/electronic/and.html, "AND Gate," concept map, March 5, 2001.								
	Jones, Douglas W., "Control of Stepping Motors, A Tutorial," Section 5, 1995, 1998, The University of Iowa Department of Computer Science, http://www.cs.uiowa.edu/~jones/step/micro.html.								
			<u> </u>						
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Examiner			Date	e Considered				<del></del>	
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation									

if not in conformance and not considered. Include copy of this form with next communication to applicant.